

PATENT APPLICATION
Docket No.: N.C. 83,661

IN THE CLAIMS:

Please add the following new claims.

- (a) providing a solution comprising an alkoxide precursor and a dopant precursor;
- (b) mixing said solution with a solid particle precursor;
- (c) inducing a sol-gel condensation reaction to form a sol-gel condensation reaction mixture;
- (d) spreading the sol-gel condensation reaction mixture on a substrate;
- (e) drying the sol-gel condensation reaction mixture;
- (f) repeating steps (a) through (e) as needed to produce a desired thickness of film; and
- (g) heating the thick film.

19. (New) The method according to claim 18, wherein said solution further comprises a hydrolysis agent.

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20. (New) The method according to claim 18, wherein a hydrolysis agent is added after said step (b).

21. (New) The method according to claim 20, wherein said hydrolysis agent is added immediately before step (c).

22. (New) The method according to claim 18, wherein said solution further comprises a reagent capable of inhibiting condensation reactions before step (b) in said solution.

23. (New) The method according to claim 19, wherein said hydrolysis agent is selected from the group consisting of water, tetramethylammonium hydroxide, and mixtures thereof.

24. (New) The method according to claim 20, wherein said hydrolysis agent is selected from the group consisting of water, tetramethylammonium hydroxide, and mixtures thereof.

25. (New) The method according to claim 18, wherein said dopant precursor is an alkoxide, an acetate, an organometallic compound, an inorganic salt, or mixtures thereof.

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26. (New) The method according to claim 18, wherein said solid particle precursor is silica, metal oxide, metal sulfide, metal oxysulfide, metal halide, metal carbonate, metal phosphate, metal sulfate, GeO_2 , pure metal or mixtures thereof.

27. (New) The method according to claim 26, wherein said solid particle precursor is fumed silica.

28. (New) A method of preparing a multilayer phosphor product on a substrate comprising the steps of:

- (h) providing a solution comprising an alkoxide precursor and a dopant precursor;
- (i) mixing said solution with a solid particle precursor, wherein said solid particle precursor have an average particle size of from about 2 to about 10,000 nm;
- (j) inducing a sol-gel condensation reaction to form a sol-gel condensation reaction mixture;
- (k) spreading the sol-gel condensation reaction mixture on a substrate;
- (l) drying the sol-gel condensation reaction mixture;
- (m) repeating steps (a) through (e) as needed to produce a desired thickness of film;
and
- (n) heating the thick film.